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Sequence Listing was accepted.

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Reviewer: Saleem, Syed (ASRC)

Timestamp: [year=2012; month=2; day=28; hr=15; min=7; sec=5; ms=767;]

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Validated By CRFValidator v 1.0.3

Application No: 10589726 Version No: 2.0

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Finished: 2012-02-22 16:39:19.893
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Total Errors: 0
No. of SeqIDs Defined: 30
Actual SeqID Count: 30

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SEQUENCE LISTING

<110> HAWIGER, JACK J.
JO, DAEWOONG

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<130> 20004.0002.000000

<140> 10589726
<141> 2012-02-22

<150> PCT/US2005/007523
<151> 2005-03-04

<150> 60/550,037
<151> 2004-03-04

<160> 30

<170> PatentIn version 3.5

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<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

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Gly Ser His

<210> 2
<211> 12
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic peptide

<400> 2
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<210> 3

<211> 211
<212> PRT
<213> Homo sapiens

<400> 3

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Met Val Ala His Asn Gln Val Ala Ala Asp Asn Ala Val Ser Thr Ala
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Ala Glu Pro Arg Arg Arg Pro Glu Pro Ser Ser Ser Ser Ser Ser Ser
            20                  25                  30

Pro Ala Ala Pro Ala Arg Pro Arg Pro Cys Pro Ala Val Pro Ala Pro
        35                  40                  45

Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser His Ala Asp Tyr
    50                  55                  60

Arg Arg Ile Thr Arg Ala Ser Ala Leu Leu Asp Ala Cys Gly Phe Tyr
65                  70                  75                  80

Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg Leu Arg Ala Glu
                85                  90                  95

Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln Arg Asn Cys Phe
            100                 105                 110

Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr Ser Ile Arg Val
        115                 120                 125

His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser Arg Glu Ser Phe
    130                 135                 140

Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala Ala Pro Arg Arg
145                 150                 155                 160

Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg Pro Leu Gln Glu
                165                 170                 175

Leu Cys Arg Gln Arg Ile Val Ala Thr Val Gly Arg Glu Asn Leu Ala
            180                 185                 190

Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu Ser Ser Phe Pro
        195                 200                 205
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Phe Gln Ile
    210

<210> 4
<211> 225
<212> PRT
<213> Homo sapiens

<400> 4
Met Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser Arg Pro Leu
1   5   10   15

Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser Glu Tyr Gln
            20   25   30

Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly Phe Tyr Trp
        35   40   45

Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Leu Ser Ala Glu Pro
    50   55   60

Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg His Phe Phe
65   70   75   80

Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu Arg Ile Gln
                85   90   95

Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg Ser Thr Gln
            100   105   110

Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val His His Tyr Met
        115   120   125

Pro Pro Pro Gly Ala Pro Ser Phe Pro Ser Pro Pro Thr Glu Pro Ser
    130   135   140

Ser Glu Val Pro Glu Gln Pro Ser Ala Gln Pro Leu Pro Gly Ser Pro
145   150   155   160

Pro Arg Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys Ile Pro Leu
                165   170   175

Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu Gln His Leu
            180   185   190

Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu Lys Val Thr
195 200 205

Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr Asp Ala Pro
210 215 220

Leu
225

<210> 5
<211> 243
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 5
Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1 5 10 15

Arg Gly Ser Met Val Ala Arg Asn Gln Val Ala Ala Asp Asn Ala Ile
20 25 30

Ser Pro Ala Ala Glu Pro Arg Arg Arg Ser Glu Pro Ser Ser Ser Ser
35 40 45

Ser Ser Ser Ser Pro Ala Ala Pro Val Arg Pro Arg Pro Cys Pro Ala
50 55 60

Val Pro Ala Pro Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser
65 70 75 80

His Ser Asp Tyr Arg Arg Ile Thr Arg Thr Ser Ala Leu Leu Asp Ala
85 90 95

Cys Gly Phe Tyr Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg
100 105 110

Leu Arg Ala Glu Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln
115 120 125

Arg Asn Cys Phe Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr
130 135 140

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Ser Ile Arg Val His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser
145                 150                 155                 160

Arg Glu Thr Phe Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala
                165                 170                 175

Ala Pro Arg Arg Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg
            180                 185                 190

Pro Leu Gln Glu Leu Cys Arg Gln Arg Ile Val Ala Ala Val Gly Arg
        195                 200                 205

Glu Asn Leu Ala Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu
    210                 215                 220

Ser Ser Phe Pro Phe Gln Ile Ala Ala Val Leu Leu Pro Val Leu Leu
225                 230                 235                 240

Ala Ala Pro
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<210> 6
<211> 243
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 6

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Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1               5                   10                  15

Arg Gly Ser Ala Ala Val Leu Leu Pro Val Leu Leu Ala Ala Pro Met
            20                  25                  30

Val Ala Arg Asn Gln Val Ala Ala Asp Asn Ala Ile Ser Pro Ala Ala
        35                  40                  45

Glu Pro Arg Arg Arg Ser Glu Pro Ser Ser Ser Ser Ser Ser Ser Ser
    50                  55                  60

Pro Ala Ala Pro Val Arg Pro Arg Pro Cys Pro Ala Val Pro Ala Pro
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65 70 75 80

Ala Pro Gly Asp Thr His Phe Arg Thr Phe Arg Ser His Ser Asp Tyr
85 90 95

Arg Arg Ile Thr Arg Thr Ser Ala Leu Leu Asp Ala Cys Gly Phe Tyr
100 105 110

Trp Gly Pro Leu Ser Val His Gly Ala His Glu Arg Leu Arg Ala Glu
115 120 125

Pro Val Gly Thr Phe Leu Val Arg Asp Ser Arg Gln Arg Asn Cys Phe
130 135 140

Phe Ala Leu Ser Val Lys Met Ala Ser Gly Pro Thr Ser Ile Arg Val
145 150 155 160

His Phe Gln Ala Gly Arg Phe His Leu Asp Gly Ser Arg Glu Thr Phe
165 170 175

Asp Cys Leu Phe Glu Leu Leu Glu His Tyr Val Ala Ala Pro Arg Arg
180 185 190

Met Leu Gly Ala Pro Leu Arg Gln Arg Arg Val Arg Pro Leu Gln Glu
195 200 205

Leu Cys Arg Gln Arg Ile Val Ala Ala Val Gly Arg Glu Asn Leu Ala
210 215 220

Arg Ile Pro Leu Asn Pro Val Leu Arg Asp Tyr Leu Ser Ser Phe Pro
225 230 235 240

Phe Gln Ile

<210> 7
<211> 244
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 7

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Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1               5                  10                  15

Arg Gly Ser Met Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser
            20                  25                  30

Arg Pro Leu Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser
        35                  40                  45

Glu Tyr Gln Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly
    50                  55                  60

Phe Tyr Trp Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Leu Ser
65                  70                  75                  80

Ala Glu Pro Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg
                85                  90                  95

His Phe Phe Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu
            100                 105                 110

Arg Ile Gln Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg
        115                 120                 125

Ser Thr Gln Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val His
    130                 135                 140

His Tyr Met Pro Pro Pro Gly Thr Pro Ser Phe Ser Leu Pro Pro Thr
145                 150                 155                 160

Glu Pro Ser Ser Glu Val Pro Glu Gln Pro Pro Ala Gln Ala Leu Pro
                165                 170                 175

Gly Ser Thr Pro Lys Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys
            180                 185                 190

Ile Pro Leu Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu
        195                 200                 205

Gln His Leu Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu
    210                 215                 220

Lys Val Thr Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr
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225 230 235 240

Asp Ala Pro Leu

<210> 8
<211> 256
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic polypeptide

<400> 8
Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1 5 10 15

Arg Gly Ser Met Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser
20 25 30

Arg Pro Leu Asp Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser
35 40 45

Glu Tyr Gln Leu Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly
50 55 60

Phe Tyr Trp Ser Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Leu Ser
65 70 75 80

Ala Glu Pro Ala Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg
85 90 95

His Phe Phe Thr Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu
100 105 110

Arg Ile Gln Cys Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg
115 120 125

Ser Thr Gln Pro Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val His
130 135 140

His Tyr Met Pro Pro Pro Gly Thr Pro Ser Phe Ser Leu Pro Pro Thr
145 150 155 160

Glu Pro Ser Ser Glu Val Pro Glu Gln Pro Pro Ala Gln Ala Leu Pro
165 170 175

Gly Ser Thr Pro Lys Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys
180 185 190

Ile Pro Leu Val Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu
195 200 205

Gln His Leu Cys Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu
210 215 220

Lys Val Thr Gln Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr
225 230 235 240

Asp Ala Pro Leu Ala Ala Val Leu Leu Pro Val Leu Leu Ala Ala Pro
245 250 255

<210> 9
<211> 256
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
polypeptide

<400> 9
Met Gly Ser Ser His His His His His His Ser Ser Gly Leu Val Pro
1 5 10 15

Arg Gly Ser Ala Ala Val Leu Leu Pro Val Leu Leu Ala Ala Pro Met
20 25 30

Val Thr His Ser Lys Phe Pro Ala Ala Gly Met Ser Arg Pro Leu Asp
35 40 45

Thr Ser Leu Arg Leu Lys Thr Phe Ser Ser Lys Ser Glu Tyr Gln Leu
50 55 60

Val Val Asn Ala Val Arg Lys Leu Gln Glu Ser Gly Phe Tyr Trp Ser
65 70 75 80

Ala Val Thr Gly Gly Glu Ala Asn Leu Leu Leu Ser Ala Glu Pro Ala
85 90 95

Gly Thr Phe Leu Ile Arg Asp Ser Ser Asp Gln Arg His Phe Phe Thr
100 105 110

Leu Ser Val Lys Thr Gln Ser Gly Thr Lys Asn Leu Arg Ile Gln Cys
115 120 125

Glu Gly Gly Ser Phe Ser Leu Gln Ser Asp Pro Arg Ser Thr Gln Pro
130 135 140

Val Pro Arg Phe Asp Cys Val Leu Lys Leu Val His His Tyr Met Pro
145 150 155 160

Pro Pro Gly Thr Pro Ser Phe Ser Leu Pro Pro Thr Glu Pro Ser Ser
165 170 175

Glu Val Pro Glu Gln Pro Pro Ala Gln Ala Leu Pro Gly Ser Thr Pro
180 185 190

Lys Arg Ala Tyr Tyr Ile Tyr Ser Gly Gly Glu Lys Ile Pro Leu Val
195 200 205

Leu Ser Arg Pro Leu Ser Ser Asn Val Ala Thr Leu Gln His Leu Cys
210 215 220

Arg Lys Thr Val Asn Gly His Leu Asp Ser Tyr Glu Lys Val Thr Gln
225 230 235 240

Leu Pro Gly Pro Ile Arg Glu Phe Leu Asp Gln Tyr Asp Ala Pro Leu
245 250 255

<210> 10
<211> 1121
<212> DNA
<213> Mus musculus

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agaaaaagaa ccagccgctt ccagtcccct ccccctccgc caccatttcg gacaccctgc 120

acactctcgt tttggggtac cctgtgactt ccaggcagca cgcgaggtcc actggcccca 180

gctcgggcga ccagctgtct gggacgtgtt gactcatctc ccatgaccct gcggtgcctg 240

gagccctccg ggaatggagc ggacaggacg cggagccagt gggggaccgc ggggttgccg 300

gaggaacagt cccccgaggc ggcgcgtctg gcgaaagccc tgcgcgagct cagtcaaaca 360

ggatggtact ggggaagtat gactgttaat gaagccaaag agaaattaaa agaggctcca 420

gaaggaactt tcttgattag agatagttcg cattcagact acctactaac tatatccgtt 480

aagacgtcag ctggaccgac taacctgcgg attgagtacc aagatgggaa attcagattg 540

gattctatca tatgtgtcaa gtccaagctt aaacagtttg acagtgtggt tcatctgatt 600

gactactatg tccagatgtg caaggataaa cggacaggcc cagaagcccc acggaatggg 660

actgttcacc tgtacctgac caaacctctg tatacatcag cacccactct gcagcatttc 720

tgtcgactcg ccattaacaa atgtaccggt acgatctggg gactgccttt accaacaaga 780

ctaaaagatt acttggaaga atataaattc caggtataag tatttctctc tctttttcgt 840

ttttttttaa aaaaaaaaaa acacatgcct catatagact atctccgaat gcagctatgt 900

gaaagagaac ccagaggccc tcctctggat aactgcgcag aattctctct taaggacagt 960

tgggctcagt ctaacttaaa ggtgtgaaga tgtagctagg tattttaaag ttccccttag 1020

gtagttttag ctgaatgatg ctttctttcc tatggctgct caagatcaaa tggccctttt 1080

aaatgaaaca aaacaaaaca aaacaaaaaa aaaaaaaaaa a 1121

<210> 11
<211> 2746
<212> DNA
<213> Homo sapiens

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